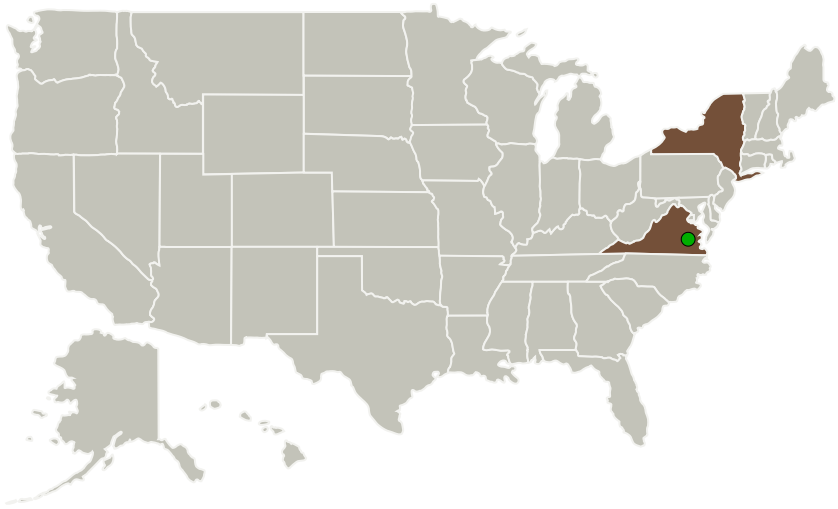
High Resolution Autostereoscopic Cockpit Display, Phase II

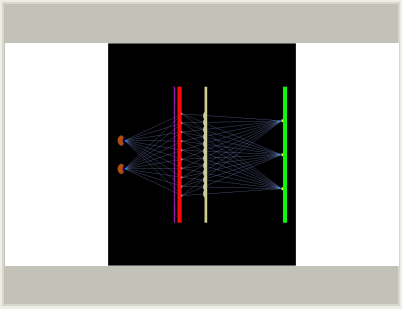
Completed Technology Project (2014 - 2016)

Project Introduction

During this Phase II program Dimension Technologies Inc. (DTI) proposes to design and build an autostereoscopic (glasses-free 3D) LCD based aircraft cockpit display that features switchable 2D & 3D operation, full LCD resolution in both 2D and 3D modes, a wide viewing area without head position restrictions, and high brightness. The display will be configured for installation and testing in a Boeing 787 cockpit simulator for evaluation and testing at the end of Phase II. Given positive results this could be followed by modification and installation in a test aircraft in Phase III. The display will be based on Rockwell's 15" flight deck displays currently in use and be designed to fit inside the existing display volume envelope. Code will be written to allow Boeing's existing simulator software to produce 3D images on DTI's displays. Presentation of images in 3D should increase the pilot's ability to extract information, particularly situational awareness from cluttered displays, as indicated by various studies at NASA and the US Air Force. Boeing has agreed to partner with DTI in Phase II.

Primary U.S. Work Locations and Key Partners





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Organizations Performing Work	Role	Type	Location
Dimension Technologies Inc	Lead Organization	Industry	Rochester, New York
Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

Primary U.S. Work Locations	
New York	Virginia

Project Transitions

April 2014: Project Start

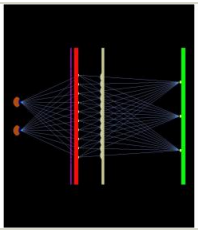
December 2016: Closed out

Closeout Summary: High Resolution Autostereoscopic Cockpit Display, Phase I I Project Image

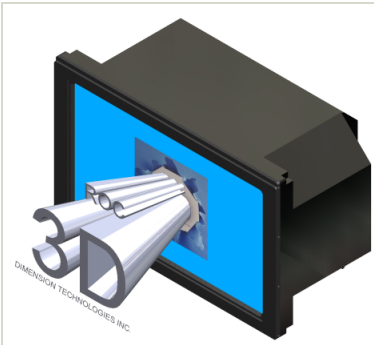
Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/137447)*

Images



Briefing Chart Image
High Resolution Autostereoscopic Cockpit Display, Phase II
(https://techport.nasa.gov/image/136376)



Final Summary Chart Image
High Resolution Autostereoscopic Cockpit Display, Phase II Project Image
(https://techport.nasa.gov/image/137245)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Dimension Technologies Inc

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Jesse Eichenlaub

Co-Investigator:
Jesse Eichenlaub

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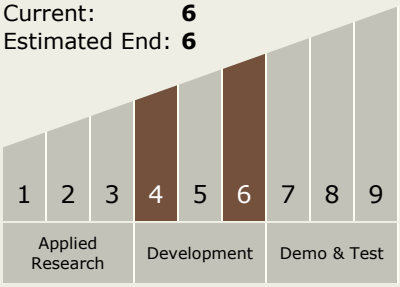
Technology Maturity (TRL)

Start: **4**
Current: **6**
Estimated End: **6**



Technology Areas

Primary:

- TX15 Flight Vehicle Systems
  - TX15.1 Aerosciences
    - TX15.1.4 Aeroacoustics

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System